

ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

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IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 09/20/2016		2. CONTRACT NO. (If any)		6. SHIP TO:	
3. ORDER NO. EP-16-H-000125		4. REQUISITION/REFERENCE NO. PR-OCSPP-16-00257		a. NAME OF CONSIGNEE Lata Vankateshwara	
5. ISSUING OFFICE (Address correspondence to) HPOD US Environmental Protection Agency William Jefferson Clinton Building 1200 Pennsylvania Avenue, N. W. Mail Code: 3803R Washington DC 20460				b. STREET ADDRESS 2777 S Crystal Dr US EPA, MC 7509P	
				c. CITY Arlington	e. ZIP CODE 22202
7. TO: SUSAN LAWLESS				f. SHIP VIA	
a. NAME OF CONTRACTOR EXPONENT, INC.				8. TYPE OF ORDER	
b. COMPANY NAME				<input checked="" type="checkbox"/> a. PURCHASE REFERENCE YOUR: <input type="checkbox"/> b. DELIVERY Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
c. STREET ADDRESS 149 COMMONWEALTH DRIVE				Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
d. CITY MENLO PARK		e. STATE CA	f. ZIP CODE 94025		
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE HPOD PY1	
11. BUSINESS CLASSIFICATION (Check appropriate box(es))					
<input type="checkbox"/> a. SMALL <input type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB					
12. F.O.B. POINT Destination					
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 10/14/2016	
a. INSPECTION	b. ACCEPTANCE				
16. DISCOUNT TERMS					

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 604061267 This action incorporates the contractor's quote dated 8/12/16. These services are non-severable Max Expire Date: 02/28/2016 Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:						
	a. NAME RTP Finance Center						\$40,425.00
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts						\$40,425.00
c. CITY Durham				d. STATE NC	e. ZIP CODE 27711		17(i) GRAND TOTAL

22. UNITED STATES OF AMERICA BY (Signature)

09/20/2016

ELECTRONIC SIGNATURE

23. NAME (Typed)
Sheila Dolan
TITLE: CONTRACTING/ORDERING OFFICER

ORDER FOR SUPPLIES OR SERVICES
SCHEDULE - CONTINUATION

PAGE NO
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DATE OF ORDER 09/20/2016	CONTRACT NO.	ORDER NO. EP-16-H-000125
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	<p>Admin Office: HPOD US Environmental Protection Agency William Jefferson Clinton Building 1200 Pennsylvania Avenue, N. W. Mail Code: 3803R Washington DC 20460</p> <p>Accounting Info: 16-P1-32P008X-401CJ1-2505-QP-J1P03FM-1632HED 007-001 BFY: 16 Fund: P1 Budget Org: 32P008X Program (PRC): 401CJ1 Budget (BOC): 2505 Job #: QP Cost: J1P03FM DCN - Line ID: 1632HED007-001</p> <p>The purpose of the contract is to update the PERFUM Model to incorporate AERMOD and CALPUFF programs as core processor options within PERFUM while still retaining the current ISCST3 processor capability.</p> <p>The total amount of award: \$40,425.00. The obligation for this award is shown in box 17(i).</p>				40,425.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$40,425.00

Clause(s):

CUSTOM CO ADDED TERMS AND CONDITIONS

In the case of a conflict between the terms and conditions of the contractor's agreement and the terms and conditions of this purchase order, all applicable federal statutes and regulations shall govern.

FAR 52.213-4 -- Terms and Conditions -- Simplified Acquisitions (Other Than Commercial Items) (Jun 2016) This clause is incorporated by reference. The full text of the clause is available at: <https://www.acquisition.gov/FAR/>.

CUSTOM CO ADDED INVOICES – RTP FINANCE

Invoices shall be prepared containing the following information: Purchase Order Number, description of commodities/services furnished, period of performance, taxpayer ID number and amount due. Invoices shall be submitted to the address specified in block 18a of this order.

OR

Invoices shall be submitted via e-mail to RTPReceiving@epa.gov. Provide the .pdf file with the following naming convention and SUBJECT in email:

SI_PO#_inv#.pdf Example: SI_EP08X00005_5335.pdf

For status of Invoice Payments, call the Financial Office's Customer Service at (919) 541-0616.

The FedEx/Commercial Courier address for invoices:
US EPA, RTP-Finance (Mail Drop D143-02)
4930 Page Road
Durham, NC 27703

CUSTOM TAX

The Federal Government is exempted from paying taxes. The tax exempt number is 52-085-2695.

FAR 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this address: <https://www.acquisition.gov/FAR/>.

FAR 52.232-39 UNENFORCEABILITY OF UNAUTHORIZED OBLIGATIONS (JUNE 2013)

This clause is incorporated by reference. The full text of the clause is available at: <https://www.acquisition.gov/FAR/>.

EPAAR 1552.211-79 COMPLIANCE WITH EPA POLICIES FOR INFORMATION RESOURCES MANAGEMENT (JAN 2012)

This clause is incorporated by reference. The full text of the clause is available at: <http://www.gpoaccess.gov/ecfr/>.

**EPA-H-09-107 UNPAID FEDERAL TAX LIABILITY & FELONY CRIMINAL VIOLATION
CERTIFICATION (APR 2012)**

(a) In order to meet the requirements of Sections 433 and 434 of Division E of the Consolidated Appropriations Act, 2012 (Pub.L. 112-74) and 2013 Continuing Appropriations Resolution (Pub.L. 112-175), and Consolidated and Further Continuing Appropriations Act, 2013 (Pub.L. 113-6), the contractor shall provide the contracting officer a certification whereby the contractor certifies:

(i) It is not a corporation that has been convicted (or had an officer or agent of such corporation acting on behalf of the corporation convicted) of a felony criminal violation under any Federal law within the preceding 24 months; and

(ii) It is not a corporation that has any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

(b) Failure of the contractor to furnish a certification or provide such additional information as requested by the Contracting Officer may render the contractor ineligible for FY2012 or FY2013 contract funding.

(c) The contractor has a continuing obligation to update the subject certification as required.

PERFORMANCE WORK STATEMENT

BACKGROUND and NEED

Pesticides are chemicals that are deliberately introduced into the environment to prevent, destroy, or mitigate any pest. As described by the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and the Federal, Food, Drug and Cosmetic Act (FFDCA) as amended by the Food Quality Protection Act (FQPA), and the Pesticide Registration Improvement Act (PRIA) a pesticide ingredient may be registered if its use will not result in unreasonable adverse effects or risks to human health or the environment. The Health Effects Division (HED) of the Office of Pesticide Programs (OPP) within the Environment Protection Agency (EPA) is charged with ensuring that no harm to human health or the environment will occur as the consequence of pesticide use in food production, processing, storage and transportation. Therefore, HED must evaluate exposures, doses, and risks associated with the use of pesticides.

The PERFUM¹ model is a publicly available system which was used to complete the current soil, structural, and commodity fumigant risk assessments.² It was also considered in the development of the volatilization screening analysis for conventional pesticides which was released for public comment in 2014. PERFUM was reviewed by the FIFRA SAP in 2004³ along with two other viable models that were ultimately not used by EPA for risk assessment purposes.⁴

PERFUM is based on a central processor known as the Industrial Source Complex – Short Term Model V3 (ISCST3) which at the time was the preferred model for EPA for air permitting purposes at that time. PERFUM is essentially a pre- and post-processor which allows users to develop risk predictions based on actual meteorological data using ISCST3. This provides more information than just the use of ISCST3 because PERFUM provides distributional outputs based on changing weather patterns compared to using ISCST3 as a stand-alone system. ISCST3 use only allows for a much simpler static weather condition (i.e., no weather changes could be accounted for).

PERFUM was developed through commercial funding by Dr. Rick Reiss of Exponent as part of an effort to register a new fumigant pesticide. As the developer of PERFUM, Exponent is the only company capable of completing this upgrade in a cost-effective manner. They have the capability of efficiently completing the upgrade since they are most familiar with what needs to be done. Additionally, this task was initiated under a previous contract that ended July 2016, and a large portion of the work has already been completed by Exponent; therefore, it is most reasonable for them to be the company to complete it.

PERFUM is considered an appropriate regulatory model, and the effort to modify it is based on input and collaboration with EPA and the California Department of Pesticide Regulation (DPR) and the Pest Management Regulatory Agency (PMRA) of Canada. DPR and PMRA will

¹ http://www.exponent.com/services/practices/environmental-sciences/occupational--environmental-health-risk-assessment/capabilities/exposure-assessment/mathematical-models-of-uptake-metabolism--respon__

² <https://www.epa.gov/soil-fumigants/regulatory-status-fumigants>

³ <https://www.regulations.gov/docket?D=EPA-HQ-OPP-2004-0240>

⁴ <https://www.regulations.gov/docket?D=EPA-HQ-OPP-2004-0241&> <https://www.regulations.gov/docket?D=EPA-HQ-OPP-2004-0242>

contribute to the funding and/or in-kind contributions to this project.

1.0 PERFORMANCE WORK STATEMENT

There are several current issues which have led to a need to update the current version of PERFUM. The first is to harmonize with current regulatory approaches used in other areas of EPA which are now based on different dispersion models (i.e., AERMOD and CALPUFF).⁵ This should include the ability to input weather data from multiple stations for CALPUFF analyses.

The other need is to create a graphical user interface (GUI) instead of having PERFUM remain as an expert system which requires a significant level of background to make it properly function. A GUI would allow more users to operate the model, would allow for a more regimented file naming and allocation system, and would allow for ready batching of various permutations of interest to the user.

Certain computational elements of PERFUM also need to be enhanced. This include:

- Distances longer than 1440 meters need to be considered within reasonable computational limits;
- PERFUM needs to allow input for any source type, including point (fixed and portable situations) and volume sources;
- PERFUM needs to include an option to output the buffer zones for each day in a predefined reporting format which is alterable via the GUI;
- A grid of air concentrations on each day would be desirable within reasonable computational limits that continues to make use of the single pass algorithm currently employed; Receptor distance should begin at edge of field, or as close as possible;
- Ability to incorporate additional flux scenarios such as multi-day application events including treatment of crop circles; and
- Ability to assess receptor heights other than 1.5 m

The EPA staff requires access to detailed information on the design of the software and will possibly require assistance from the software developers in the development of additional applications and the interpretation of outputs.

Work will be performed at contractor's facilities, though performance will require frequent interaction and meetings with EPA project management, business subject matter experts, and technical subject matter experts. Such interactions will take place at EPA headquarters in Washington, DC but (at EPA's option) may take place at contractor's facilities. All documentation delivered shall be fit for its purpose and shall conform to customary standards of workmanship and professionalism for the type of service rendered.

2.0 TECHNICAL REQUIREMENTS

Task 1: Project Management

⁵ http://www.epa.gov/scram001/dispersion_prefrec.htm

The Contractor shall provide a single point of contact for the management of all aspects of the tasks involved with this Performance Statement of Work. That person shall be known as the Contractor Project Manager. The Contractor Project Manager shall report on all aspects of the objectives and progress of this contract to the designated Contract Officer (CO) and Contract Officer Representative (CORs) via email, through monthly reports. The Project Manager plans, conducts and supervises the project. The Contractor Project Manager shall notify via email the relevant EPA CO or COR/Alternate COR of any significant difficulties in accomplishing the task listed in the Statement of work (SOW).

The Contractor Project Manager shall utilize agile software development methodology. This collaboration will promote continuous improvement and rapid response to changes required by the Agency.

The Project Manger shall ensure that a Quality Management Plan (QMP) and Quality Assurance Project Plan (QAPP) is submitted to EPA for review and approval for this project. The QMP and QAPP for this project shall be reviewed and approved by OPP's QA Officer(s), some adjustments may need to be made in order to obtain approval. In cases where performance objectives and minimum Acceptable Quality Levels (AQLs) are not being met, the contractor Project Manager will make every effort to immediately correct the problems to ensure customer satisfaction. If the problem persists, the Project Manager will submit a plan of corrective action to the CO or CORs. The contractor Project Manager shall ensure that the approved Quality Assurance (QA)/Quality Control (QC) process is followed to ensure the quality of its products.

Task 2: Complete the incorporation of AERMOD and CALPUFF programs as core processor options within PERFUM while still retaining the current ISCST3 processor capability.

The contractor will complete the modification of the PERFUM program to integrate the additional programs as core processor options within PERFUM while still retaining the current ISCST3 processor capability. The contractor will work on the subroutine within PERFUM to generate appropriate CALPUFF control files for each of the scenario types (POLY, ENCL (point and area), MOE, and CIR). The contractor will include the CALPUFF model as a subroutine within PERFUM to obtain the values of fumigant concentration for the Buffer Zone calculations.

Task 3: Complete development of GUI (Graphical User Interface) For PERFUM.

The contractor shall complete the modification of PERFUM to use a Windows-based interface that is a point and click style of GUI as appropriate. The work to be completed includes: (1) Configuration of pages for user input, including meteorological data, dimensions and receptor information, enclosure and circular scenario data, model outputs, and application rates; (2) setup of the PERFUM subdirectory structure, and executing the model using generated control files; (3) performing project save and load; (4) confirming batch execution functionality; (5) confirming the graphical view of outputs; and (6) preparing final documentation (i.e., a help file).

Task 4: Complete the addition of functionalities as appropriate and within reasonable

computational limits.

The contractor shall complete the incorporation of, as appropriate, the functionalities described above under Section 1 (e.g., distances beyond 1440 meters, crop circle use patterns, etc.). All functionalities listed have already been incorporated, with the exception of allowing input for volume sources.

Task 5: Modify User Manual and provide technical support.

The contractor will modify the user manual to reflect the changes in PERFUM which occurred as a result of these modification efforts. A draft document will be developed which will be reviewed by all stakeholders who are party to this agreement. Modifications will be made based on the comments and a final User Manual will be produced. The contractor will continue to host the program on their website to allow for public access to PERFUM. All code and documentation should be readily available to the public.

Task 6: Testing and Validation

The contractor will complete appropriate steps to ensure PERFUM modifications operate correctly and provide accurate results. The contractor will complete an internal testing program and the findings of this analysis will be provided in a summary report.

3.0: DELIVERABLES AND SCHEDULE

As per this project, the Contractor shall provide the Agency with a workplan and cost estimate within 15 days of the receipt this request. The contractor will deliver all system deliverables in a 508 compliant format. EPA 2100.1 and EPA 3110.21(a)(1) – 508 COMPLIANCE: All deliverables shall be in compliance with Section 508, Accessibility Standards of the Rehabilitation Act, of 1973 and Amendments of 1998. When preparing deliverables, the contractor shall refer to the most recent version of the 508 Standards at: <https://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards>

The contractor shall have a Quality Assurance (QA)/Quality Control (QC) program that maintains the quality of its products. The QA program and the Quality Management Plan (QMP) <http://www.epa.gov/quality/qs-docs/r2-final.pdf> shall be submitted to the CO and CORs by the contractor to be reviewed and approved by the Office of Pesticide Program's (OPP's) QA Officers after award. The contractor shall prepare a Quality Assurance Project Plan for this project. EPA Requirements for Quality Assurance Project Plans (QA/R-5).

Specific schedule of deliverables:

Deliverable	Schedule	Format/Distribution
Quality Managment Plan http://www.epa.gov/quality/qs-docs/r2-final.pdf	Within 5 calendar days after contract is awarded by the CO	Email acknowledgement to CO/COR

Deliverable	Schedule	Format/Distribution
Quality Assurance Project Plan http://www.epa.gov/quality/epa-quality-management-tools-projects	Within 5 calendar days after contract is awarded by the CO	Email to CO/COR
Monthly Report	15th of each month (following completion of 1st reporting period)	Email to CO and COR
Upgraded PERFUM Database	Within three months from the date of award.	MS Word (2013) or current EPA compatible software format, using acceptable electronic media or via email to the COR
Updated User Manual	After completion of database and 10 business days before contract expires.	As per contract
Technical Support	Throughout contract period	Via teleconference and email

Acceptable quality limit for task: All tasks included in this statement of work shall be completed with three months after the date of award.

Quality Assurance Surveillance Plan:

PERFORMANCE OBJECTIVES	PERFORMANCE MEASURES (PM)	PERFORMANCE STANDARDS (PS) QA TARGET	SURVEILLANCE PLAN (SP)	CONTRACTOR INCENTIVE (CI)
Performance Objective – Upgrade PERFUM Database				
1). Upgrade PERFUM database 2) Modify user's manual to support the updated PERFUM database	1) Meet requirements as addressed in the SOW deliverable section	Documents are delivered on time; no more than five (5) typographical, spelling, and formatting errors identified in any draft or final document. Successful stand-up of corresponding Testing environments to meet outlined capabilities.	1) The Contractor shall be alerted, in writing, whenever Performance Objectives are not achieved.	Please note that for all Performance Objectives, the Contractor Incentive is that for at least three (3) or more written warnings of inadequate deliverable quality throughout the contract performance period, the Contractor will be penalized 10% (ten percent) from the total due per performance objective on the submitted monthly invoice.

Method of surveillance:

The Database and user manual prepared by the contractor shall undergo a review in OPP. The EPA reviewer conducts a detailed review of the contractor's deliverables, examines the functionality of the database and comprehension of the manual in accordance with the criteria described in the SOW. Once the EPA reviewer has finalized the review and communicated to the contractor EPA acceptance and the deliverables (PERFUM database and manual are considered satisfactory it will be used officially and the contract will be considered successfully fulfilled).

Quality assurance surveillance plan

PERFORMANCE REQUIREMENT	PERFORMANCE MEASURE (PM)	PERFORMANCE STANDARD	SURVEILLANCE METHOD	INCENTIVES & DISINCENTIVES
<u>MANAGEMENT AND COMMUNICATION:</u> The contractor shall maintain contact with the EPA CO and COR throughout the performance of the contract.	Contractor shall immediately bring potential problems to the appropriate EPA personnel and shall recommend actions that would mitigate or resolve the problem.	Issues that impact project schedules and costs shall be brought to the attention of the EPA within 3-days of occurrence.	All deliverables listed in the SOW will be reviewed by the EPA to identify unreported issues.	Performance will be considered in the award of subsequent contracts and will be factored into the annual evaluation of Business Relations in the Contractor Performance Assessment Reporting System (CPARS).
<u>TIMELINESS:</u> For every Task a specific delivery date for the generation of a report, the contractor shall deliver such report to the CO and COR, no later than the time specified in the order's SOW	Deliverables and related work must comply with contractual timeliness requirements. The contractor will be evaluated on its responsiveness to all request in the SOW.	95% of all deliverables and related work shall be completed on time within task schedule and/or tech. direction requirements.	100% inspection of all deliverables and related work by the COR; COR will document the timeliness of all work requirements.	Performance will be considered in the award of subsequent contracts and will be factored into the annual evaluation of Business Relations in the Contractor Performance Assessment Reporting System (CPARS).

Place of performance: All other work is expected to be performed at the contractor's office location(s).